ity of only 2%. 36 patients were discharged from the ED with a BNP level > 400 pg/ml. The 90 days mortality was 9% in this group, while patients discharged from the ED with a BNP level < 400 pg/ml had 0% mortality at 90 days. Patients who were discharged home from the ED actually had higher BNP levels than those admitted (976 versus 767, p=0.6). Using regression analysis, ED doctor's intention to admit or discharge a patient had no influence on their 90 day mortality, while the BNP level was a strong predictor of 90 day mortality. Conclusion: In patients presenting to the ED with heart failure, there is a strong disconnect between the perceived severity of CHF by ED physicians and severity as determined by BNP levels. The results of this study strongly suggests that BNP levels will aid physicians in making appropriate triage decisions about whether to admit or discharge patients. This should avoid prolonged stays in the ED, unnecessary hospitalizations, inappropriate discharges home and lead to better patient care.

Noon

1001-26 Exchange of Beta-Blocking Therapy in Heart Failure Patients. Experiences From the Post Study Phase of COMET (the Carvedilol or Metoprolol European Trial)

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Background: The COMET study reported a survival benefit for Carvedilol (C), a β1, β2 and α1 blocking agent, versus Metoprolol (M), a β1 selective blocker, in 3029 patients (pts) (NYHA class II-IV, LVEF ≤ 35%) with chronic heart failure (HF) followed-up for 46-74 months. While withdrawal of β-blockade (BB) is associated to worsening HF and arrhythmias, only limited information exists on exchanging BB in pts with HF.
Methods: At the end of COMET, study BB therapy in pts with stable HF was to be stopped without unblinding and down-titration and immediately replaced by open BB at a dose equivalent to half of the study dose of pts. Thereafter, up-titration to maximum-tolerated or target BB dose was recommended. Pts were followed for 30 days for adverse events.
Results: 1429 pts (47.2%) completed COMET on study BB (C 41 ± 15 mg, M 82 ± 30 mg). 1321 (92.4%) were subsequently switched to a post-study BB (1014 pts, 76.8%, to C; 201, 15.2%, to M and 102, 7.7%, to bisoprolol), while 108 pts (7.6%) withdrew BB. Pts staying on the same BB (8.7% on C, 7.4% on M) reported less adverse events than pts switched to a different BB (15.1% from C to M, 14.1% from M to C) or those who withdrew BB (22.2%). Most events occurred in the first week after the transition. The rate of serious events was lower in pts who stayed on C (2.1%) or on M (3.2%), or in pts changing from M to C (3.1%), while higher in those switched from C to M (9.4%) or withdrawing BB (11.1%). Nine pts (0.6%) died, 2 (0.2%) on C, 5 (2.5%) on M and 2 (1.9%) not receiving open BB. HF related events were more frequent in those switching from C to M (4.7%; 4.7% serious) than in pts changing from M to C (2.3%; 1.5% serious). Bradycardia and hypotension were reported in < 1% of pts. Pts on M who were switched to a reduced dose of C is associated with the lowest rate of serious and HF related events. Pts on M can be safely switched to C to benefit from the survival advantage demonstrated in the COMET study.
Conclusion: The exchange of BB without down-titration is a practical, safe and well-tolerated strategy in stable HF. The transition from M to a reduced dose of C is associated with the lowest rate of serious and HF related events. Pts on M can be safely switched to C to benefit from the survival advantage demonstrated in the COMET study.

Noon

1001-27 Patients at Risk for Recurrent Embolism After Percutaneous Closure of Patent Foramen Ovale for Presumed Paradoxical Embolism

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Background: Percutaneous closure of a patent foramen ovale (PFO) is an alternative to medical or surgical prevention of recurrent embolism in patients with presumed PFO mediated paradoxical embolism. Risk factors for recurrence after successful PFO closure have not been completely elucidated yet.
Methods: We followed 299 patients with presumed PFO mediated paradocixal embolism after percutaneous PFO closure for a total of 662 patient-years (mean follow-up: 2.2 years, range 0.2 – 8.5 years), assessing postprocedural shunt, recurrent embolic events and device-related morbidity. Freedom of recurrence was calculated according to the Kaplan-Meier method. Predictors of recurrence were calculated using a Cox proportional hazard model.
Results: Twenty recurrent embolic events were observed (14 transient ischemic attacks, 5 events of peripheral embolism, 1 stroke), resulting in an actuarial recurrence rate of 3.8% (95% CI 1.7-6.4%) at 1 year, 7.9 (95% CI 4.9-12.6) at 2 years, and 8.7 (95% CI 5.5-13.7%) at 4 years. Univariate predictors of recurrence were age at implantation > 60 years (hazard ratio 2.7, 95% CI 1.1-6.5), cardiovascular risk factors (hazard ratio 1.5 for every additional factor, 95% CI 1.05-2.1), and most importantly the number of embolic events prior to PFO closure (> 2 events: hazard ratio 4.1, 95% CI 1.7-9.8). Since patients with multiple embolic events prior to PFO closure were older, only the cardiovascular risk profile and > 2 events prior to PFO closure remained significant predictors of recurrence in a multivariate Cox proportional hazard analysis. There was no relation between recurrence rate and atrial septal anatomy (PFO with or without atrial septal aneurysm), gender, residual shunt after 6 months, type or size of device, and embolic index event.Conclusions: Patients with > 2 thromboembolic events prior to device implantation and patients with multiple cardiovascular risk factors are at increased risk for recurrence of embolic events after PFO closure. These findings suggest that alternative mechanisms in addition to paradoxical embolism may be present in this patient group.

Noon

1001-28 Chronotropic Incompetence in Children With Late Postoperative Atrial Flutter: A Case-Control Study

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Background: Atrial flutter (AF) causes late postoperative (postop) morbidity in congenital heart patients. Sinoatrial node dysfunction (SAND) is often present but has not been systematically evaluated as an AF risk factor. **Methods:** An institutionally approved retrospective single-center case-control study was performed. A computerized cardiology database search identified patients aged ≤18 years with documented late AF (≥6 months postop; excluded if AF present at 1-6 months), and with ≥1 graded exercise test (GXT) and/or 24-hour outpatient ambulatory ECG (Holter). AF-free controls were matched for surgical procedures and year of birth ± 3 (median difference 0.4) years, with postop follow-up at least equivalent to time points of first AF documentation in corresponding cases. Non-AF heart rate (HR) data were extracted from all GXT (median 2/case, 2/control) and Holter (2/case, 1/control) records. Percent of maximum (max) predicted HR achieved (%pred) was based on HR_{max}/(220 – age in years), where HR_{max} = max HR on GXT or Holter. Data were analyzed using mixed linear regression for repeated measures.
Results: There was 85% concordance for 125 open heart operations in 42 case-control pairs. AF onset in cases was at age 9.4±5.0 (mean±SD) years. Cases had lower average HR, max HR, and %pred than controls (**Table**). **Conclusion:** Chronotropic reserve is reduced but minimum HR is similar in AF patients versus controls. Chronotropic incompetence is thus an important feature of SAND in patients with late postop AF.

Table

	Minimum HR (Holter, beats/min)	**Average HR** (Holter, beats/min)	**Max HR** (GXT and Holter, beats/min)	**%pred**
Case (N=42)	55 ± 18	76 ± 10	146 ± 31	70 ± 15
Control (N=42)	56 ± 14	83 ± 17	169 ± 22	81 ± 10
P	NS	<0.001	<0.0001	<0.0001

Noon

1001-29 Impact of Gender on Long-Term Mortality in 4,234 Women and 6,898 Men Evaluated With Exercise and Dobutamine Stress Echocardiography

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Background. Prior research is limited regarding the diagnostic and prognostic accuracy of cardiac imaging modalities in women. The purpose of the current report was to examine 5-year mortality in 4,234 women and 6,898 men undergoing exercise or dobutamine stress echocardiography at 3 hospitals.
Methods. Univariable and multivariable Cox proportional hazards models were used to estimate time to cardiac death in this multicenter, observational registry.
Results. In this cohort of 11,132 patients, women had a greater frequency of cardiac risk factors (p<0.0001). However, men more often had a history of coronary disease including a greater frequency of stress-induced ischemia (p<0.0001). During the 5 years of follow-up, 103 women and 226 men died from coronary artery disease (p<0.0001). From the echocardiographic examination, estimates of left ventricular function (p<0.0001) and the extent of ischemia (p<0.0001) noted during peak stress were highly predictive of cardiac death. At 5 years, risk-adjusted survival was 99.4%, 97.6%, and 95% for exercising women with no, single, and multiple vascular territories with ischemia (p<0.0001). For women undergoing dobutamine stress, 5-year survival was 95%, 89%, and 86.6% for those with no, 1, and 2 or 3 vessel ischemia (p<0.0001). For exercising men, cardiac death at 5 years was higher at 1.1% to 4.5% for 0 to 3 vessel ischemia (p<0.0001). Significantly worsening cardiac survival was noted for the 1,568 men undergoing dobutamine stress echocardiography (p<0.0001). No inducible ischemia was associated with a 92% survival as compared with cardiac death rates of ≥16% for men with ischemia on dobutamine stress echocardiography (p<0.0001).
Conclusion. Echocardiographic measures of inducible wall motion abnormalities and global and regional left ventricular function are highly predictive of long term outcome for women and men, alike.